

Recycling Plastic Waste

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Abstract: *The current situation in India sees the generation of 1,88,000 tons of garbage daily, with plastic waste comprising around 9% to 12% of municipal solid waste, posing significant environmental challenges due to its non-biodegradable and toxic nature. Efforts in both public and private sectors have focused on repurposing plastic waste, particularly in rural road construction. This study evaluates two common innovations in this regard, discussing their implementation and measures for enhancing performance, while also providing recommendations for other states considering similar initiatives.*

Technological advancements have revolutionized the recycling of plastic waste, making it a less labor-intensive industry compared to just half a century ago. Despite initial resistance to change, the waste management sector is increasingly embracing technology to streamline operations and reduce costs.

Research is underway to leverage plastic waste for enhancing road infrastructure, including increasing road tractor capacity and filling potholes. This innovative approach offers a sustainable means of disposing of plastic waste, capitalizing on its flexibility and abundant availability. Additionally, the introduction of a green energy system, incorporated into a mobile application-operated robot, presents a promising solution. This solar-powered machine, coupled with software-based controls, offers a sustainable and efficient approach to managing plastic waste while contributing to environmental conservation efforts.

Keywords: Recycling, Plastic waste, Robotics, Automation, Sustainability

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